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likely to interest and please uninstructed minds, and with the exceptions noted, we think are reliable. The chapter on the future of our planet is an imaginative picture of the manner in which mankind may eventually utilize the forces of inorganic nature.

THE FAUNA OF THE GULF STREAM AT GREAT DEPTHS.\*—The investigations ordered by the new Superintendent of the Coast Survey, Professor Pierce of Harvard College, into the marine fauna of the Gulf stream, in connection with the regular duties of the survey, have begun to produce its natural result, in such valuable contributions to science, as we have now before us. The line of the present survey was "in a section between Key West and Havana, incidentally with the purpose of sounding out the line for the telegraph cable." Although the work was interrupted, and the casts made with the dredge few, "the interesting fact was disclosed, that animal life exists at great depths, in as great a diversity and as great an abundance, as in shallow water." By two casts in two hundred and seventy fathoms off Havana, Crustacea and Worms, numerous dead shells of Gasteropods and Pteropods, living Terebratulæ, and seven species of Bryozoa, besides Echini, Starfishes, and an abundance of Corals, Hydroids, and Foraminiferæ were taken. Only one species of sea-weed, however, was mixed with this luxuriant animal life, which corresponds with similar results of deep sea dredging in the European seas, and shows that "the greater number of deep sea-animals must be carnivorous." They found, also, that a porous limestone was in process of formation, "composed apparently of the remains of the same animals which were found living." In a cast made in three hundred and fifty fathoms, nothing was brought up but a few dead corals. "The Echinoderms appear to have a wide distribution in depth," and the Gorgonias (sea-fans) are represented in two hundred and seventy fathoms, by at least two species known to belong to the West Indian fauna, in moderate depths. The results of this attempt are certainly very interesting and important to marine zoölogy, although no casts were made in the deepest parts of the channel.

With our present knowledge, it is premature to assume the existence of the higher forms of animal life in the profound abysses of the Atlantic and Pacific Oceans, but dredging in the Gulf of Mexico may be carried to such a depth as to have a most important, if not decisive bearing upon this question, since the Coast Survey have sounded over nine thousand feet in one instance, and several times to the extent of six thousand feet.

Dredging has been very recently carried on at enormous depths by the Scandinavian expedition to Spitzbergen, for it is stated, in the November number of the *Annals and Magazine of Natural History*, that Messrs. Malmgren and Smitt have dredged up a variety of animals from a depth of 2,000 feet, near Spitzbergen.

THE BUTTERFLIES OF NORTH AMERICA.—The second part of this beautifully illustrated work has appeared, and we desire again to commend

\* Bulletin of the Museum of Comparative Zoölogy. No. 6. Contributions to the Fauna of the Gulf stream at great depths. By L. F. Pourtales, Ass't U. S. Coast Survey.

the fine style in which the work is issued. The colored lithographic plates are unsurpassed, and the letter-press is in every way excellent. We trust the publishers will feel encouraged to continue the work, so that every species of butterfly, together with its caterpillar and chrysalis, in our territory, may set for its portrait. When completed and bound, it will make a beautiful ornament for the centre table. The present number figures various species of *Argynnis*, *Colias*, and *Apatura*. Published by the American Entomological Society, Philadelphia. \$2.00 a Part.

REVIEW OF THE SCANDINAVIAN PUBLICATIONS IN NATURAL HISTORY DURING 1867 AND PART OF 1868. By Dr. Lütken of Copenhagen. — Prof. Reinhardt has described two new species and one new genus of fresh-water snakes, *Tachyplotus* (new genus) *Hedemanni* from Billiton and *Helicops assimilis* R., from Lagos Santa, both illustrated by woodcuts. He further gives us the first good figure ever published of the true *Delphinus delphis*, and in a postscript to the observations made by Mr. Hallar, the surgeon of a whaling cruiser, near Iceland in 1867, he demonstrated the identity of the “*Strypireydr*,” of the Icelander, with the little known *Balænoptera Sibbaldii*. The cranium, atlas and os hyoideum of this species of whale are described in detail and figured. Mr. A. Bøeck has contributed an interesting paper on two species of truly symmetrical (bilaterally formed) jelly-fishes, related to *Willsia*, but forming a new genus, *Dipleurusoma*; the typical species was observed by the author in the Norwegian Sea; the other is established on a drawing made by the late Mr. Stüwitz, probably in the American part of the Atlantic, near Newfoundland. In another paper Mr. Bøeck clears up a question that has considerably puzzled earlier inquirers, in describing the nervous system of *Nemertes*, from his own researches and those of his father (Professor Chr. Bøeck in Christiania). He points out the various errors committed by all previous investigators, and demonstrates the composition of the central mass (or brain), which consists of an outer, reddish, granular substance, and an inner yellowish filamentose one (both papers are illustrated by wood-cuts). Professor Steenstrup’s paper on the “Original character of the Terrestrial Mammalian Fauna of Iceland” starts from the hypothesis proposed in Mr. Murray’s work on the Geographical Distribution of Mammals, that the field mouse of Iceland might be a species of *Myodes*, and probably one of the American species, thus impressing an American stamp on the primitive fauna of this island; this mammal being in part the *only* one, which, with any degree of probability, can be regarded as aboriginally Irish. He proves that the said mouse is, after all that is known about it, a true *Mus*, closely allied to, if not identical with, the *Mus sylvaticus* of Scandinavia; no single specimen of *Myodes* was ever caught or heard of in Iceland, neither by the author during his stay in that country, nor by others. Mr. Warming, a young botanist lately returned from a three years sojourn in Brazil, in the house of Dr. Lund, at Lagos Santa, has opened a series of “*Symbolæ ad Floram Brazilæ centralis cognoscendam*.” The introduction, illustrated by two physiotyp-